



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,922	08/20/2001	Yoshinori Takasaki	0050-0159	4337
44987	7590	05/29/2008		
HARRITY SNYDER, LLP 11350 Random Hills Road SUITE 600 FAIRFAX, VA 22030			EXAMINER GREY, CHRISTOPHER P	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			05/29/2008 PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

09/931,922

**Applicant(s)**

TAKASAKI, YOSHINORI

**Examiner**

CHRISTOPHER P. GREY

**Art Unit**

2616

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No./Mail Date: \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. In view of the appeal brief filed on 2/26/08, PROSECUTION IS HEREBY REOPENED.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

**The final rejection mailed on 9/24/07 is being vacated and replaced with this final rejection. Since Applicant amended the claims in the response filed on 12/29/2006, this replacement Final is proper.**

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 3-7, 9-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Nagata et al. (US 6269083), hereinafter referred to as Nagata.

**Regarding claim 1,** Nagata discloses a plurality of OAM cell handlers (**fig 1, 1a & 1b make up a first OAM cell handler, and 1c & 1d make up a second OAM cell handler, where the OAM loopback cell delivering means and recognizing means are equivalent to the OAM cell handlers, and these components are composed within the communication device 1 of fig 1, and the communication device 11 in fig 14)**

a plurality of virtual path handlers (**fig 14, 13 and 51 are combined to form a plurality of VPH's and Col1 lines 5-15 indicate that the network and devices are capable of handling virtual paths).**

a plurality of virtual channel handlers (**fig 14, elements 14 and 52 are combined to form a plurality of VCH's, where Col 1 lines 5-15 indicate that the network and devices contained within fig 14 are capable of handling virtual channels).**

trunks (**fig 14, 16 and 53 are combined to form a plurality of trunks, as trunks from the applicants spec are merely the termination points of a connection)**

a control unit (**fig 5, 36, controller)** configured to:  
issue an OAM cell send instruction to a first one of the plurality of OAM cell handlers (**Col 12 lines 35-52, where an OAM cell tx request is sent from the controller 36, and this request in the OAM cell delivering means of fig 1a 1, as the components of fig 5 make up this device)**

control said first OAM cell handler to carry out a loopback control test (**Col 12 lines 35-52, where an OAM cell tx request is sent from the controller 36, and this request in the OAM cell delivering means of fig 1a 1, as the components of fig 5 make up this device)** to at least one of the virtual path handlers (**fig 14, the OAM cell is sent from the cell delivering means of the device 11, to the VPH's 13 and 51), at least on of said virtual channel handlers (fig 14, the OAM cell is sent from the cell delivering means of the device 11, to the VCH's 14 and 52), and at least one of said trunks (fig 14, the OAM cell is sent from the cell delivering means of the device 11,**

**to the trunk's 16 and 53), which are associated with said first OAM cell handler (from fig 14, the first oam cell delivering means indicated by the tx of the first oam cell is associated with the subscriber 16 in that a connection between the 2 devices is formed), in response to the OAM cell send instruction (Col 12 lines 51-52, OAM loopback cell is sent in response to the previous tx of the OAM cell tx request), and**

when said first OAM cell handler sends out an OAM cell in response to said OAM cell send instruction, determine a fault position based on returning or non-returning (**Col 13 lines 46-65, the exchange that has not returned the loopback cell is identified**) of the OAM cell to said first OAM cell handler (**fig 1, 1b and 1d receive the loopback cell after it has been transmitted and looped back**).

**Regarding Claim 3.** Nagata discloses said OAM handlers, said plurality of virtual path handlers, said plurality of virtual channel handlers, said trunks, and said control unit being contained in an ATM switching apparatus (**fig 5 discloses an ATM exchange where all of these components are found. The ATM exchange has the functionality of a switching device as it contains an ATM switch**).

**Regarding Claim 4.** Nagata discloses periodically issuing the OAM cell send instruction to the first OAM cell handler (Col 14 lines 3-24).

**Regarding Claim 5.** Nagata discloses determine a fault position based on returning or non-returning (Col 13 lines 46-65) of each OAM cell to said first OAM cell handler (Col 16 line 55-Col 17 line 4).

**Regarding Claim 6.** Nagata discloses an OAM cell transmission control unit that transmits (issues) an OAM cell transmission request (OAM send cell instruction) as disclosed in Col 12 lines 35-52.

Nagata also discloses an OAM cell transmission control unit that controls the OAM cell transmitter to transmit the OAM loopback cell to the path route (Col 6 lines 39-46).

Nagata discloses a controller coupled to the control unit for determining a fault based on the returning of the OAM cell (Col 16 line 62- Col 17 line 20).

Nagata discloses a second OAM loopback cell delivering means (OAM cell handler) being enabled (changed) to deliver a second OAM loopback cell (Col 5 lines 44-50), where transmission of a second cell may be broadly interpreted as a change for the control unit, as opposed to sending a first OAM cell.

**Regarding claim 7.** Nagata discloses issuing an OAM cell send instruction to a specific one of a first one of the plurality of OAM cell handlers **(Col 12 lines 35-52, where an OAM cell tx request is sent from the controller 36, and this request in the OAM cell delivering means of fig 1a 1, as the components of fig 5 make up this device)**

carrying out a loopback control test **(Col 12 lines 35-52, where an OAM cell tx request is sent from the controller 36, and this request in the OAM cell delivering means of fig 1a 1, as the components of fig 5 make up this device)** to at least one of the virtual path handlers **(fig 14, the OAM cell is sent from the cell delivering means of the device 11, to the VPH's 13 and 51)**, at least on of said virtual

channel handlers (fig 14, the OAM cell is sent from the cell delivering means of the device 11, to the VCH's 14 and 52), and a trunk (fig 14, the OAM cell is sent from the cell delivering means of the device 11, to the trunk's 16 and 53), which are associated with said first OAM cell handler (from fig 14, the first oam cell delivering means indicated by the tx of the first oam cell is associated with the subscriber 16 in that a connection between the 2 devices is formed), in response to the OAM cell send instruction (Col 12 lines 51-52, OAM loopback cell is sent in response to the previous tx of the OAM cell tx request)

sending out an OAM cell in response to said OAM cell send instruction (Col 12 lines 51-52, OAM loopback cell is sent in response to the previous tx of the OAM cell tx request),

determining a fault position based on returning or non-returning (Col 13 lines 46-65, the exchange that has not returned the loopback cell is identified) of the OAM cell to said first OAM cell handler (fig 1, 1b and 1d receive the loopback cell after it has been transmitted and looped back).

Regarding claim 9. Nagata discloses wherein said carrying out a loop back control test is performed in an ATM switching apparatus (fig 5 shows the atm device which is a switching apparatus according to the switching function of element 34, and furthermore, the oam loopback test is performed in this device according to fig 6, where element 37 transmits and receives the oam cell for testing).

Regarding Claim 10. Nagata discloses said OAM handlers, said plurality of virtual path handlers, said plurality of virtual channel handlers, said trunks, and said control



unit being contained in an ATM switching apparatus (**fig 5 discloses an ATM exchange where all of these components are found. The ATM exchange has the functionality of a switching device as it contains an ATM switch).**

**Regarding Claim 11.** Nagata discloses periodically issuing the OAM cell send instruction to the first OAM cell handler (Col 14 lines 3-24).

**Regarding claim 12.** Nagata discloses carrying out a loopback control test (Col 12 lines 35-52, where an OAM cell tx request is sent from the controller 36, and this request in the OAM cell delivering means of fig 1a 1, as the components of fig 5 make up this device) to all of the virtual path handlers (fig 14, the OAM cell is sent from the cell delivering means of the device 11, to the VPH's 13 and 51), said virtual channel handlers (fig 14, the OAM cell is sent from the cell delivering means of the device 11, to the VCH's 14 and 52), of said trunks (fig 14, the OAM cell is sent from the cell delivering means of the device 11, to the trunk's 16 and 53), in response to the OAM cell send instruction (Col 12 lines 51-52, OAM loopback cell is sent in response to the previous tx of the OAM cell tx request),

Said sending out comprising:

sending out an OAM cell in response to said OAM cell send instruction (Col 12 lines 51-52, OAM loopback cell is sent in response to the previous tx of the OAM cell tx request).

**Regarding claim 13.** Nagata discloses a plurality of testing devices (fig 1, 1a & 1b make up a first OAM cell handler, and 1c & 1d make up a second OAM cell handler, where the OAM loopback cell delivering means and recognizing means

**are equivalent to the OAM cell handlers, and these components are composed within the communication device 1 of fig 1, and the communication device 11 in fig 14)**

**a plurality of path handlers (fig 14, 13 and 51 are combined to form a plurality of VPH's and Col 1 lines 5-15 indicate that the network and devices are capable of handling virtual paths);**

**a plurality of channel handlers (fig 14, elements 14 and 52 are combined to form a plurality of VCH's, where Col 1 lines 5-15 indicate that the network and devices contained within fig 14 are capable of handling virtual channels);**

**a plurality of trunks (fig 14, 16 and 53 are combined to form a plurality of trunks, as trunks from the applicants spec are merely the termination points of a connection)**

**issue an instruction to a first one of the plurality of testing devices, the instruction indicating that the first testing device is to perform a loopback control test (Col 12 lines 35-52, where an OAM cell tx request is sent from the controller 36, and this request in the OAM cell delivering means of fig 1a 1, as the components of fig 5 make up this device),**

**wherein the first testing device is configured to: receive the instruction, send test data (Col 12 lines 35-52, where an OAM cell tx request is sent from the controller 36, and this request in the OAM cell delivering means of fig 1a 1, as the components of fig 5 make up this device) to at least one of the path handlers (fig 14,**

**the OAM cell is sent from the cell delivering means of the device 11, to the VPH's 13 and 51), channel handlers (fig 14, the OAM cell is sent from the cell delivering means of the device 11, to the VCH's 14 and 52) or trunks (fig 14, the OAM cell is sent from the cell delivering means of the device 11, to the trunk's 16 and 53) in response to the instruction (Col 12 lines 51-52, OAM loopback cell is sent in response to the previous tx of the OAM cell tx request),**

receive back at least some of the test data (fig 6, element 37B receives test data), and

forward results of the loopback control test to the control unit (fig 6 shows received oam cell data being received and sent to an analyzer),

wherein the control unit is further configured to:

identify a fault based on the forwarded results (Col 13 lines 46-65, the exchange that has not returned the loopback cell is identified).

**Regarding claim 14.** Nagata discloses the control unit is configured to periodically issue the instruction to the first testing device (Col 14 lines 3-24).

**Regarding Claim 15.** Nagata discloses forwarding information to the control unit based on return of the test data to the first testing device (fig 6, 37 and 37b).

**Regarding Claim 16.** Nagata discloses a controller coupled to the control unit for determining a fault based on the returning of the OAM cell (Col 16 line 62- Col 17 line 20).

**Regarding Claim 17,** Nagata discloses performing a fault avoidance operation based on the identified fault (Col 25 lines 9-19, maintenance action).

**Regarding Claim 18,** Nagata discloses the control unit being configured to forward loopback control test initiation instructions to the plurality of the testing devices (Col 12 lines 35-52).

**Regarding Claim 19,** Nagata discloses the plurality of testing devices may be included in the plurality of path handlers, the plurality of channel handlers or the plurality of trunks (see fig 14).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 2, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al. (US 6269083), hereinafter referred to as Nagata in view of Hsing et al. (US 6167025).

**Regarding Claim 2,** Nagata discloses a switching apparatus connected to an ATM exchange dedicated to route/switch data based on routing information (see fig 5 and relevant description).

Nagata also discloses detecting the position of a fault (Col 16 line 55-Col 17 line 4).

Nagata does not specifically disclose carrying out a switching operation of a route from at least one of said virtual path handlers to at least one of said trunks for fault avoidance based on the determined fault position.

Hsing discloses carrying out a switching operation of a route from at least one of said virtual path handlers to at least one of said trunks for fault avoidance based on the determined fault position **(Col 4 lines 30-40, note that an ATM switches a route based on the determination that a fault on a node exists).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the ATM exchanges of Nagata, as taught by Hsing, since stated in the title, that such a modification will allow restoring of a connection in an ATM network.

**Regarding Claim 8.** Nagata discloses a switching apparatus connected to an ATM exchange dedicated to route/switch data based on routing information (see fig 5 and relevant description).

Nagata also discloses detecting the position of a fault (Col 16 line 55-Col 17 line 4).

Hsing discloses carrying out a switching operation of a route from at least one of said virtual path handlers to at least one of said trunks for fault avoidance based on the determined fault position **(Col 4 lines 30-40, note that an ATM switches a route based on the determination that a fault on a node exists).**

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the ATM exchanges of Nagata, as taught by Hsing, since stated in the title, that such a modification will allow restoring of a connection in an ATM network.

Art Unit: 2616

4. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al. (US 6269083), hereinafter referred to as Nagata in view of Hiscock et al. (US 6347073), hereinafter referred to as Hiscock.

**Regarding claim 20.** Nagata does not disclose the plurality of path handlers, the plurality of channel handlers and the plurality of trunks being contained in a single switching apparatus

Hiscock discloses the plurality of path handlers, the plurality of channel handlers and the plurality of trunks being contained in a single switching apparatus (fig 1, 20, where a combination of switches or devices equivalent to the atm exchanges within Nagata, are combined within one device known as a packet forwarding device 20, and see Col 3 lines 18-21, where 2 or more switches are combined into one device).

It would have been obvious to one of the ordinary skill in the art at the time of the invention was disclosed to modify the system as disclosed by Nagata, as taught by Hiscock, since stated in the abstract that such a modification will allow redundancy within the device in the event of a failure or fault of some sort.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER P. GREY whose telephone number is (571)272-3160. The examiner can normally be reached on 10AM-7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Moe Aung can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/  
Supervisory Patent Examiner, Art Unit 2616

/Christopher P Grey/  
Examiner, Art Unit 2616